

Mumbai University

Question Paper

**[CBSSGS – 75:25 PATTERN]
(APRIL – 2015)**

PAPER - I

**INTERNET
TECHNOLOGIES**

Time: 2 ½ Hours**Total Marks:** 75**N.B.:** (1) All Question are Compulsory.

(2) Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.

(3) Answer To The Same Question Must Be Written Together.

(4) Number To The Right Indicates Marks.

(5) Draw Neat Labeled Diagrams Wherever Necessary.

(6) Use of Non – Programmable Calculator is allowed.

Q.1 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) What are the functions of the Transport Layer in the OSI Model? (5)
- (B) In a block of Addresses, we know the IP Address of one host is 110.23.120.14/20.What are the First Address (Network Address) and the Last Address (Limited Broadcast Address) in this block. (5)
- (C) How does the IPv4 Protocol work over ATM Networks? (5)
- (D) Compare an IPv4 Header with an IPv6 Header. (5)

Q.2 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain the Cache Control Module and the Cache Table in the ARP Package. (5)
- (B) State and explain the three Phases that a Mobile Host goes through in Order to Communicate with a Remote Host. (5)
- (C) Explain the Source Quench Message and the Time Exceeded Message in ICMP. (5)
- (D) State and explain the solutions to the Two Node instability in RIP. (5)

Q.3 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain the Send and the Receive Windows used in TCP for Flow Control. (5)
- (B) Explain the Server States of the TCP State Transition. (5)
- (C) Explain the Services provided by UDP. (5)
- (D) Explain the Control Flags, Window Size and Urgent Pointer Fields in the TCP Header. (5)

Q.4 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain the Services offered by SCTP to the Application Layer Processes. (5)
- (B) Explain the DHCP Client Transitions with the help of a diagram. (5)
- (C) Explain the Association Establishment in SCTP. (5)
- (D) What are the two kinds of resolution used by DNS for Name-Address Resolution? (5)

Q.5 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain the Four Control characters used in TELNET for Option Negotiation. (5)
- (B) Explain the different kinds of TFTP Messages. (5)
- (C) Write a note on HTTP. (5)
- (D) Explain the three attributes of Communication over Data Connection in FTP. (5)

Q.6 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Write a note on MIME. (5)
- (B) Explain the Commands and Responses used in SMTP to transfer Messages from the Client to Server. (5)
- (C) Explain the two techniques used for Traffic Shaping to improve Quality of Service. (5)
- (D) Explain the characteristics of Real-Time Audio/Video Communication. (5)

[TURN OVER]

Q.7 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) What are the four levels of addresses used in the internet having TCP/IP Protocols? (5)
 - (B) State and explain the four types of links in OSPF. (5)
 - (C) What are the different Timers used in TCP? (5)
 - (D) Differentiate between a TCP Header and an SCTP Header. (5)
 - (E) Write a note on Cookies used with HTTP. (5)
 - (F) State and explain the different types of Messages in BGP. (5)
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